

What is claimed is:

1. (Currently Amended) A ~~compound~~ nanocomposite, comprising:
a ~~nanocomposite selected from the group consisting of~~ —
(a) ~~thermoplastic matrix polymer, nanoclay, and compatibilizing dispersion agent having a weight ratio of nanoclay to compatibilizing dispersion agent of less than 2.2:1 and greater than 1:1.9, and~~
(b) a thermoplastic matrix polymer, nanoclay, and compatibilizing dispersion agent having a weight ratio of nanoclay to compatibilizing dispersion agent of greater than 3.1:1 and less than 10:1; and
wherein the nanoclay comprises at least about 8 weight percent of the nanocomposite.
2. (Currently Amended) The ~~compound~~ nanocomposite of Claim 1, wherein the nanocomposite further comprises a polyolefin elastomer.
3. (Currently Amended) The ~~compound~~ nanocomposite of Claim 1, wherein the nanocomposite further comprising ingredients selected from the group consisting of colorants, nucleators, blowing agents, activators which lower the activation temperature of the blowing agent, surfactants, plasticizers, stabilizers, flame retardants, UV absorbers, fillers, fragrances, mold release aids, processing aids, biocides, antistatic additives, anti-microbial agents, lubricants, and combinations of them.
4. (Currently Amended) The ~~compound~~ nanocomposite of Claim 1, wherein the nanoclay comprises at least 9 weight percent of the nanocomposite.
5. (Currently Amended) The ~~compound~~ nanocomposite of Claim 1, wherein the compound further comprises a thermoplastic polyolefin mixed with the nanocomposite.
6. (Currently Amended) The ~~compound~~ nanocomposite of Claim 1 in the form of an article.

7. (Currently Amended) The ~~compound~~ nanocomposite of Claim 5, wherein the nanocomposite is mixed with a thermoplastic polyolefin at a point of molding or extruding a final thermoplastic article.

8. (Currently Amended) The ~~compound~~ nanocomposite of Claim 7, wherein the thermoplastic polyolefin and the nanocomposite are mixed at a ratio of about 4:1 of thermoplastic polyolefin to nanocomposite.

9. (Currently Amended) The ~~compound~~ nanocomposite of Claim 4, wherein the nanocomposite is in the form of pellets for further processing.

10. (Currently Amended) The ~~compound~~ nanocomposite of Claim 4, wherein the nanocomposite is in the form of a molded or extruded article.

11. (Currently Amended) A method of making a ~~compound~~ nanocomposite of Claim 2, comprising the steps of

(a) adding the thermoplastic matrix polymer, nanoclay, and nanoclay dispersion agent to an extruder; and

(b) adding the polyolefin elastomer downstream from where the thermoplastic matrix polymer, nanoclay, and nanoclay dispersion agent were added.

12. (Previously Presented) The method of Claim 11, wherein step (a) also includes adding ingredients selected from the group consisting of colorants, nucleators, blowing agents, activators which lower the activation temperature of the blowing agent, surfactants, plasticizers, stabilizers, flame retardants, UV absorbers, fillers, fragrances, mold release aids, processing aids, biocides, antistatic additives, anti-microbial agents, lubricants, and combinations of them.

13. (Currently Amended) The ~~compound~~ nanocomposite of Claim 2, wherein the nanocomposite further comprising ingredients selected from the group consisting of colorants, nucleators, blowing agents, activators which lower the activation

temperature of the blowing agent, surfactants, plasticizers, stabilizers, flame retardants, UV absorbers, fillers, fragrances, mold release aids, processing aids, biocides, antistatic additives, anti-microbial agents, lubricants, and combinations of them.

14. (Currently Amended) The ~~compound~~ nanocomposite of Claim 2, wherein the nanoclay comprises at least 9 weight percent of the nanocomposite.

15. (Currently Amended) The ~~compound~~ nanocomposite of Claim 2, wherein the ~~compound~~ nanocomposite further comprises a thermoplastic polyolefin mixed with the nanocomposite.

16. (Currently Amended) The ~~compound~~ nanocomposite of Claim 3, wherein the nanoclay comprises at least 9 weight percent of the nanocomposite.

17. (Currently Amended) The ~~compound~~ nanocomposite of Claim 3, wherein the ~~compound~~ nanocomposite further comprises a thermoplastic polyolefin mixed with the nanocomposite.

18. (Currently Amended) The ~~compound~~ nanocomposite of Claim 2 in the form of an article.

19. (Currently Amended) The ~~compound~~ nanocomposite of Claim 3 in the form of an article.

20. (Currently Amended) The ~~compound~~ nanocomposite of Claim 4 in the form of an article.